

TECHNICAL REVIEW DOCUMENT
For
MODIFICATION TO OPERATING PERMIT 95OPPB097

CF&I Steel, L.P. dba EVRAZ Rocky Mountain Steel (ERMS) - Steelmaking
El Paso County
Source ID 1010048

December 2013

Operating Permit Engineer:

Blue Parish

I. Purpose

This document establishes the basis for decisions made regarding the requested modification to the Operating Permit for Steelmaking. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis. This document is designed for reference during the review of the proposed permit by the EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the request for modification submitted to the Division on August 27, 2013, and various e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Permit Modification Request/Modification Type

The Operating Permit for the Steelmaking portion of the Steel Mill was issued on December 1, 2001, was last renewed on December 28, 2010, and was last revised on October 1, 2012. Evraz submitted a request to modify the permit on August 27, 2013. The source requested that the permit be modified to remove the flare associated with the Vacuum Tank Degasser (VTD) process, and to increase the permitted limits on the VTD boiler.

The VTD flare is currently used to oxidize the gases that are removed from the melted steel while it is in the Vacuum Tank Degasser, which are primarily hydrogen, carbon monoxide and hydrogen. Additional natural gas must be added to this stream before it is sent to the flare in order to provide enough heat content for combustion. The

current permit includes a CO limit for the VTD of 0.87 tons/year, which is based on an emission factor of 12.87 lb/heat, 6738 heats/year and an assumed removal efficiency of CO in the flare of 98%. The VTD boiler is rated at 37 MMBtu/hr, and is currently permitted at 162 MMscf/year (50% of full 8760 hours/year operation). The VTD boiler emission limits are set using the permitted fuel use rate and AP-42 emission factors for natural gas-fired boilers.

The application requests an increase in the VTD boiler limits to full design rate (324.0 MMscf/year), the removal of the VTD flare, and an increase in the annual limit on number of heats in the VTD to 13,271.

The requested changes result in the following new emission limits:

	Vacuum Tank Degassing (tpy)	VTD Boiler (tpy)	VTD & VTD Boiler Combined (tpy)	PSD Significance Levels (tpy)
CO	85.3	13.6	99	100
PM	NA	1.23	1.23	25
PM ₁₀	NA	1.23	1.23	15
PM _{2.5}	NA	1.23	1.23	10
NO _x	NA	16.2	16.2	40
VOC	NA	0.9	0.9	40
SO ₂	NA	0.1	0.1	40

Emissions of SO₂, VOC, PM, PM₁₀ and PM_{2.5} are below APEN reportable thresholds.

This facility is a major stationary source. To determine if the proposed modification should be evaluated for PSD applicability, the significant emission increase test defined in Reg 3, Part D, I.B.1 is used. However, if the total PTE for the modified equipment after the change is less than PSD significance levels, the results of a more rigorous applicability test in Section I.B.1 can be presumed to be less than PSD significance levels also. Based on the table above, total PTE for both units combined is less than PSD Significance thresholds.

CO₂ emissions from the VTD boiler at a new limit of 324 MMscf/year would be 19,440 tons per year (based on the AP42 CO₂ emission factor of 120,000 lb/MMscf). The threshold at which greenhouse gases would be subject to regulation is 75,000 tons per year.

Note that the project will result in the reduction of emissions caused by the natural gas combusted as supplemental fuel in the flare; however, these types of reductions are not used to determine PSD applicability unless a full netting exercise is required.

Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can be processed under the minor permit modification procedures. Specifically, minor permit modifications “are not otherwise required by the Division to be processed as a

significant modification” (Colorado Regulation No. 3, Part C, Section X.A.6). This modification qualifies as a minor modification because: it is not a major modification for purposes of PSD (as shown above), increases in permitted emission limits are less than the thresholds defined for significant permit modifications (as per Reg 3, Part C, Section I.A.7.a), no new requirements are being established to avoid otherwise applicable requirements, and no significant changes to monitoring/recordkeeping are required. Therefore the Division determines that this modification can be processed as a minor modification.

III. Modeling

Increases in permitted emission limits are less than thresholds in Colorado’s modeling guidance.

IV. Source Requested Modifications

The source’s requested modifications were addressed as follows:

- The flare was removed from the description of the VTD in Section I, Condition 6 and in Appendices B and C.
- The CO limit and the limit on the number of heats were updated in Section II, Condition 4 for the VTD process
- The fuel consumption limit and emission limits were updated in Section II, Condition 5 for the VTD boiler.
- Appendix F is updated

V. Other Modifications

In addition to the source requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal. These changes are as follows:

- The AIRS Point Number for the Demag Round Caster is corrected to 039 (previously listed as 040).
- As noted by the source, the description for the Ladle Preheat Burners at the very beginning of Condition 7 contains a typo. It refers to 3 stations but there are 5. This is not a modification, it is an administrative correction of a typographical error.